



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,277	11/10/2003	Chris Zegelin	A35583 072797.0194	4912

21003 7590 01/09/2006

BAKER & BOTTS  
30 ROCKEFELLER PLAZA  
NEW YORK, NY 10112

EXAMINER
----------

DAGOSTA, STEPHEN M

ART UNIT	PAPER NUMBER
----------	--------------

2683

DATE MAILED: 01/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/705,277	<b>Applicant(s)</b> ZEGELIN, CHRIS	
	<b>Examiner</b> Stephen M. D'Agosta	<b>Art Unit</b> 2683	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 December 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 and 7 is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-6 and 8-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed 12-20-2005 have been fully considered but they are not persuasive.

1. As of the writing of this response, the examiner has not received the supplemental IDS described in the amendment. Hence the problems with the IDS still remain and the examiner has not considered the art discussed previously.

2. The applicant argues that the prior art does not teach "selection of an access point for association with a mobile unit is made according to selection criteria including a plurality of selection parameters". The examiner disagrees. Firstly, the applicant describes their "plurality of parameters" yet this list does not exist in the claims, hence the examiner can broadly interpret the art. Ramaswamy teaches, at least, using location determination in connecting the user to the WLAN. He also states that the user can use signal quality (Para #25) as means for deciding whether to connect as well. The applicant is invited to amend their claim such that it specifically states which parameters are used.

3. The applicant argues claim 5 is not taught (and that the combination is incorrect). The examiner disagrees since the applicant's claim is broadly written and does not limit how the change in direction is determined. The combination of Ramaswamy and Hill will produce a system that reads on the claimed limitation. As written below, claim 5 does not limit the examiner with regard to how art can be applied regarding determination of direction:

"...and wherein said system includes arrangements for determining direction of change of location of a mobile unit within said area, the improvement wherein said selection criteria includes direction of change of location of said mobile unit when there are a plurality of access points available for association with said mobile unit..."

Claim 5 does not specify the exact way in which direction is determined, hence Hill can be applied since input from the user is not prevented. The applicant is invited to

Art Unit: 2683

amend their claim such that it specifically states how direction determination is accomplished (eg. in a manner that does not read broadly on Hill).

4. With regard to claim 8, the applicant argues that Harrison does not “a selected portion” of the area. The examiner disagrees since Harrison teaches his system can “...initiate a hand-off from one radio to another. For example, the Access Server may force a hand-off in order to manage traffic congestion...” (Para. #71).

It is the examiner's position that Harrison's system must inherently select a portion of the cell area since it can only handoff certain mobiles to certain BTS's. In other words, splitting a cell in half (eg. from 12 o'clock to 6 o'clock), the BTS would inherently handoff the right half to BTS's proximate on that right side while handing off the left half to BTS's proximate that left side. There is no technical reason why Harrison would hand off a mobile (located near 3 o'clock) to a BTS that is proximate that cell over at the 9 o'clock side, eg. it would handoff to a BTS near the 3 o'clock side. Secondly, it is well known for a BTS to have knowledge of a potential handoff candidate BTS's traffic, which would dictate which mobiles are to be handed off (again, selected cell areas would be determined as to which mobiles could be handed off to lightly loaded proximate BTS's). Hence Harrison inherently takes a selected portion into consideration. Lastly, it is well known in the art that sectorized antennas exist which have knowledge of cell sectors/portions.

5. With regard to claim 9, the applicant argues that the claim is not taught. The examiner disagrees, for reasons stated above, along with the cited prior art which teaches the limitations (eg. Forssen teaches an intracell handover using different channels).

6. Claims 3 and 7 are allowed.

***Information Disclosure Statement***

The information disclosure statement filed 4-5-2004 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the Bahl/Padmanabhan reference appears to be missing a page between the cover page and the second page (eg. page two is not the "start of the document", but rather appears to be continuing from a [missing] previous page). The examiner has lined through this reference and it is not considered. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claim 1** rejected under 35 U.S.C. 102(e) as being anticipated by Ramaswamy et al. US 2004/0052232.

As per **claim 1**, Ramaswamy teaches a wireless data communications system (title) wherein mobile units become associated with access points (figure 1 shows users #110<sub>1</sub> and #110<sub>2</sub>, and Access Points #104<sub>1</sub> and #104<sub>2</sub>), and wherein association between a mobile unit and an access point is changed as mobile units move within an area having a plurality of access points (figure 1 shows system has knowledge of users #110<sub>1</sub> and #110<sub>2</sub>, being associated with specific Access Points #104<sub>1</sub> and #104<sub>2</sub> based

Art Unit: 2683

on their proximity to said Access Points, also see P#25), and wherein selection of an access point for association with a mobile unit is made according to selection criteria including a plurality of selection parameters (P#22 discloses using position from GPS and/or position from communication system, eg. AGPS and/or Loran, P#17. The primary examiner notes that there are many well known mobile positioning techniques such as AOA, TDOA, etc.), and wherein said system includes arrangements for determining location of a mobile unit within said area (abstract), the improvement wherein said selection parameters include location of said mobile unit when there are a plurality of access points available for association with said mobile unit (figure 1 and P#22 disclose that the system determines the location of the mobile as it pertains to which specific Access Point it is nearest and then connecting to that nearest Access Point).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 2** rejected under 35 U.S.C. 103(a) as being unpatentable over Ramaswamy and further in view of Lewis US 6,259,898.

As per **claim 2**, Ramaswamy teaches claim 1 **but is silent on** wherein said access points are RF Ports associated with a cell controller and wherein association functions are performed in said cell controller.

Ramaswamy teaches mobile location determination via GPS, AGPS or other systems such as LORAN (P#17). Also he teaches a location database that stores the location of each APU (P#16).

Art Unit: 2683

Lewis teaches a WLAN with Access points (see figures 1-2) and a cell controller (figure 2, main processor #30).

The primary examiner takes **Official Notice** that position determination can be performed at various locations/components in a wireless system, eg. at a BTS, at a mobile w/GPS, at a Location Database per Ramaswamy, etc.. Hence one skilled would provide means for position determination at a cell controller.

It would have been obvious to one skilled in the art at the time of the invention to modify Ramaswamy, such that said access points are RF Ports associated with a cell controller and wherein association functions are performed in said cell controller, to provide flexibility as to which component(s) in the system determines location, to include the BTS, Mobile, Cell Controller, Location Database, etc..

**Claims 4-5** rejected under 35 U.S.C. 103(a) as being unpatentable over Ramaswamy and further in view of Hills et al. US 2002/0087264.

As per **claim 4**, Ramaswamy teaches claim 1 **but is silent on** wherein said selection parameters further include direction of change of location of said mobile unit.

Hills teaches "A system for determining a position of a user. The system includes a distance sensor in communication with a position tracking device. The distance sensor is for detecting movement by the user, and the position tracking device is for determining the position of the user based on detection of movement by the user and a relative change in direction input from the user. (Abstract, P#'s 6, 7 and 11, and figure 3, #44-46)

It would have been obvious to one skilled in the art at the time of the invention to modify Ramaswamy, such that said selection parameters further include direction of change of location of said mobile unit, to provide means for determining which direction the user is traveling to support handoff to another APU.

Art Unit: 2683

As per **claim 5**, Ramaswamy teaches a wireless data communications system (title) wherein mobile units become associated with access points (figure 1 shows users #110<sub>1</sub> and #110<sub>2</sub>, and Access Points #104<sub>1</sub> and #104<sub>2</sub>), and wherein association between a mobile unit and an access point is changed as mobile units move within an area having a plurality of access points (figure 1 shows system has knowledge of users #110<sub>1</sub> and #110<sub>2</sub>, being associated with specific Access Points #104<sub>1</sub> and #104<sub>2</sub> based on their proximity to said Access Points, also see P#25), and wherein selection of an access point for association with a mobile unit is made according to selection criteria including a plurality of selection parameters (P#22 discloses using position from GPS and/or position from communication system, eg. AGPS and/or Loran, P#17. The primary examiner notes that there are many well known mobile positioning techniques such as AOA, TDOA, etc.), **but is silent on** wherein said system includes arrangements for determining direction of change of location of a mobile unit within said area, the improvement wherein said selection criteria includes direction of change of location of said mobile unit when there are a plurality of access points available for association with said mobile unit.

Hills teaches "A system for determining a position of a user. The system includes a distance sensor in communication with a position tracking device. The distance sensor is for detecting movement by the user, and the position tracking device is for determining the position of the user based on detection of movement by the user and a relative change in direction input from the user. (Abstract, P#'s 6, 7 and 11, and figure 3, #44-46)

It would have been obvious to one skilled in the art at the time of the invention to modify Ramaswamy, such that said system includes arrangements for determining direction of change of location of a mobile unit within said area, the improvement wherein said selection criteria includes direction of change of location of said mobile unit when there are a plurality of access points available for association with said mobile unit, to provide means for determining which direction the user is traveling to support handoff to another APU.



Art Unit: 2683

**Claim 6** rejected under 35 U.S.C. 103(a) as being unpatentable over Ramaswamy/Hills and further in view of Lewis US 6,259,898.

As per **claim 6**, Ramaswamy teaches claim 5 **but is silent on** wherein said access points are RF Ports associated with a cell controller and wherein association functions are performed in said cell controller.

Ramaswamy teaches mobile location determination via GPS, AGPS or other systems such as LORAN (P#17). Also he teaches a location database that stores the location of each APU (P#16).

Lewis teaches a WLAN with Access points (see figures 1-2) and a cell controller (figure 2, main processor #30).

The primary examiner takes **Official Notice** that position determination can be performed at various locations/components in a wireless system, eg. at a BTS, at a mobile w/GPS, at a Location Database per Ramaswamy, etc.. Hence one skilled would provide means for position determination at a cell controller.

It would have been obvious to one skilled in the art at the time of the invention to modify Ramaswamy, such that said access points are RF Ports associated with a cell controller and wherein association functions are performed in said cell controller, to provide flexibility as to which component(s) in the system determines location, to include the BTS, Mobile, Cell Controller, Location Database, etc..

**Claim 8** rejected under 35 U.S.C. 103(a) as being unpatentable over Ramaswamy and further in view of Harrison US 2003/0036386.

As per **claim 8**, Ramaswamy teaches a wireless data communications system (title) wherein mobile units within an area become associated with access points (figure 1 shows users #110<sub>1</sub> and #110<sub>2</sub>, and Access Points #104<sub>1</sub> and #104<sub>2</sub>) and shows system has knowledge of users being associated with specific Access Points based on their proximity to said Access Points, also see P#25), and wherein said system includes arrangements for determining location of a mobile unit within said area (P#17 teaches location determination via GPS, AGPS, etc.), **but is silent on** a method for avoiding collisions of packets transmitted by said mobile units to an associated access point,

Art Unit: 2683

comprising assigning mobile units in a selected portion of said area to another access point.

Harrison teaches "...In the present invention, it is contemplated that an Access Server, an Access Point, or an End-Point can initiate a hand-off from one radio to another. For example, the Access Server may force a hand-off in order to manage traffic congestion..." (P#71) which reads on the claim.

It would have been obvious to one skilled in the art at the time of the invention to modify Ramaswamy, such that it can avoid collisions of packets transmitted by said mobile units to an associated access point, comprising assigning mobile units in a selected portion of said area to another access point, to provide means for reducing congestion via a forced handoff from one APU to another APU.

**Claim 9** rejected under 35 U.S.C. 103(a) as being unpatentable over Ramaswamy and further in view of Harrison and Forssen et al. US 5,848,358.

As per **claim 9**, Ramaswamy teaches a wireless data communications system wherein mobile units within an area become associated with access points (figure 1 shows users #110<sub>1</sub> and #110<sub>2</sub>, and Access Points #104<sub>1</sub> and #104<sub>2</sub>), units within an area become associated with access points, and wherein selection of an access point for Association with a mobile unit is made according to selection criteria including a plurality of selection parameters and wherein said system includes arrangements for determining, (P#22 discloses using position from GPS and/or position from communication system, eg. AGPS and/or Loran, P#17. The primary examiner notes that there are many well known mobile positioning techniques such as AOA, TDOA, etc.) and wherein said system includes arrangements for determining location of a mobile unit within said area (P#17 teaches location determination via GPS, AGPS, etc.), **but is silent on** a method for avoiding collisions of packets transmitted by said mobile units to an associated access point, comprising assigning mobile units in a first selected portion of said area to a first channel and assigning mobile units in a second selected portion of said area to a different channel.

The primary examiner notes that antenna sectorization is well known in the art and provides means for dividing a cell site into separate sectors so that channels can be separated and cause less interference and traffic congestion. Further to this point, intracell handoffs occur is two users are proximate each other whereby one can be handed-off to another sector/channel.

Harrison teaches "...In the present invention, it is contemplated that an Access Server, an Access Point, or an End-Point can initiate a hand-off from one radio to another. For example, the Access Server may force a hand-off in order to manage traffic congestion..." (P#71) which reads on the claim.

Further to this point is **Forssen** who teaches an intracell handover (title) whereby the mobile station is handed-off from a first channel to a second channel within the same cell/area based upon measured spatial information (abstract and claim 1 and figures 1-2). One skilled would ensure handoffs occur to decrease traffic loading in cells that use techniques such as sectorization and beam-steering as well.

It would have been obvious to one skilled in the art at the time of the invention to modify Ramaswamy, such that it avoids collisions of packets transmitted by said mobile units to an associated access point, comprising assigning mobile units in a first selected portion of said area to a first channel and assigning mobile units in a second selected portion of said area to a different channel, to provide means for using handoffs via sectorization/beam-steering to reduce traffic congestion in the same cell.

### ***Allowable Subject Matter***

Claims 3 and 7 allowed.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 571-272-7862. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen D'Agosta  
Primary Examiner  
12-29-2005

